

We claim:

1. Cyclodextrinyl-containing organosilicon compounds comprising units of the formula

5



where

10 A may in each occurrence be the same or different and is a radical of the formula



15 where

CD is a mono- or multivalent derivatized or underivatized, cyclodextrin residue and R^2 is a divalent substituted or unsubstituted hydrocarbyl radical which may be interrupted by oxygen or by mercapto, amine, carbonyl, carboxyl, sulfoxide or sulfonyl groups,

R may in each occurrence be the same or different and is a substituted or unsubstituted hydrocarbyl radical which may be interrupted by oxygen atoms, sulfur atoms and/or nitrogen atoms,

X may in each occurrence be the same or different and is a radical of the formula $-OR^1$ where R^1 is a hydrogen atom or substituted or unsubstituted hydrocarbyl with or without substitution by ether oxygen atoms,

30 a is 0, 1 or 2,

b is 0, 1, 2 or 3,

c is 0, 1, 2 or 3, and

d is 0, 1, 2 or 3,

35 with the proviso that

- the sum $a+b+c+d$ is ≤ 4 ,

- the organosilicon compound has at least one A radical per molecule,

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- not more than 90% of the units of the formula (I), preferably not more than 50%, more preferably not more than 30% and especially none of the units of the formula (I) has the sum of $a+b+c+d$ being equal 0,
- 5 - organosilicon compounds of the formula (I) where $a+b+c+d=4$ cannot have R^2 being triazinylene,
- organosilicon compounds consisting of units of the formula (I) where $a+b+c+d \leq 3$ cannot have R^2 being an α -carboxylic acid or α -carbonic acid derivative (such
- 10 as carboxylate ester, thioncarboxylate ester, carboxamide, thioncarboxamide, urethane, S-thiourethane or urea derivative) which is purely aliphatic, i.e., constructed exclusively of carbon-carbon single bonds, and attached through ω -SiC to the organosilicon
- 15 compound,
- organosilicon compounds consisting of units of the formula (I) where $a+b+c+d \leq 3$ cannot have R^2 being divalent hydrocarbonyl selected from the group consisting of
- 20 $-\text{CH}_2-\text{CHOH}-\text{CH}_2-\text{O}-(\text{CH}_2)_3-$, $-(\text{CH}_2)_e-$, $-\text{Ar}-(\text{CH}_2)_e-$, $-\text{Ar}-\text{O}-(\text{CH}_2)_e-$, $-\text{Ar}-\text{S}-(\text{CH}_2)_e-$, $-\text{Ar}-\text{NH}-(\text{CO})-(\text{CH}_2)_e-$ or $-(\text{CO})-\text{Ar}-\text{O}-(\text{CH}_2)_e-$, where e is 0-16 and Ar is a phenylene, pyridylene or furanylene radical, wherein the cyclodextrin oxygen atom used for the chemical attachment of CD to R^2 may be replaced by S, NH or NR^0
- 25 where R^0 has one of the meanings indicated above for R.

2. Cyclodextrinyl-containing organosilicon compounds according to claim 1, characterized in that they are silanes, i.e., compounds of the formula (I) where

30 $a+b+c+d=4$.

3. Cyclodextrinyl-containing organosilicon compounds according to claim 1, characterized in that they are siloxanes, i.e., compounds comprising units of the

35 formula (I) where $a+b+c+d \leq 3$.

4. A process (**process 1**) for preparing the organosilicon compounds according to one or more of

claims 1 to 3, characterized in that a halotriazine-functional cyclodextrin (derivative) is reacted with an organosilicon compound containing amino, mercapto, hydroxyl, carboxyl, anhydride, glycosido, phenol, polyglycol, phosphonato or silalactone groups.

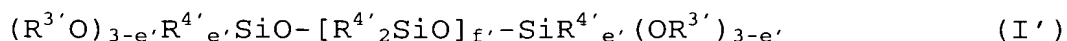
5. A process (**process 2**) for preparing the organosilicon compounds according to one or more of claims 1 to 3, characterized in that an epoxy-functional cyclodextrin (derivative) is reacted with an organosilicon compound containing amino, mercapto, carboxyl, anhydride, hydroxyl, glycosido, phenol, polyglycol, phosphonato or silalactone groups.

6. A process (**process 3**) for preparing the organosilicon compounds according to one or more of claims 1 to 3, characterized in that an amino-functional cyclodextrin (derivative) is reacted with an epoxy-functional polysiloxane.

7. A process (**process 4**) for preparing the organosilicon compounds according to one or more of claims 1 to 3, characterized in that a vinylsulfonyl-functional cyclodextrin (derivative) or a cyclodextrin (derivative) having vinylsulfonyl derivative functions, such as 2-sulfooxyethylsulfonyl and 2-chloroethylsulfonyl groups is reacted with an organosilicon compound containing amino, mercapto, hydroxyl, carboxyl, anhydride, glycosido, phenol, polyglycol, phosphonato or silalactone groups.

8. A process (**process 5**) for preparing the organosilicon compounds according to one or more of claims 1 to 3, characterized in that an acryloyl- or methacryloyl-functional cyclodextrin (derivative) is reacted with an organopolysiloxane containing amino, mercapto, hydroxyl, carboxyl, anhydride, glycosido, phenol, polyglycol, phosphonato or silalactone groups.

9. A process (**process 6**) for preparing the organosilicon compounds according to one or more of claims 1 to 3, characterized in that an amino-functional cyclodextrin (derivative) is reacted with an acryloyl- or methacryloyl-containing organosilicon compound.
10. A process for treating organic fibers, characterized in that organosilicon compounds according to one or more of claims 1 to 3 or prepared by a process according to claim 4, 5, 6, 7, 8 or 9 are applied to the fibers or fabrics to be treated.
11. Crosslinkable compositions based on organosilicon compounds comprising
- (A) organopolysiloxanes having two or more hydrolyzable or condensation-capable moieties selected from organyloxy groups and hydroxyl radicals,
 - (B) a cyclodextrinyl-containing organosilicon compound having two or more hydrolyzable or condensation-capable moieties selected from organyloxy groups and hydroxyl radicals, and/or their partial hydrolyzates or their partial condensates, if appropriate
 - (C) a crosslinker selected from organopolysiloxanes having two or more Si-attached hydrogen atoms and amino-containing organosilicon compounds having two or more hydrolyzable or condensation-capable moieties selected from organyloxy groups and hydroxyl radicals and if appropriate
 - (D) a condensation catalyst.
12. Crosslinkable compositions according to claim 11, characterized in that organopolysiloxanes (A) have the general formula



where

e' is 0, 1 or 2,

$R^{4'}$ denotes identical or different SiC-attached hydrocarbyl radicals with or without substitution by halogen atoms, amino groups, ether groups, ester groups, epoxy groups, cyano groups or (poly)glycol radicals, the latter being constructed from oxyethylene and/or oxypropylene units, and

$R^{3'}$ may in each occurrence be the same or different and represent a hydrogen atom or have one of the meanings indicated for $R^{4'}$,

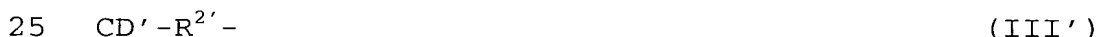
f' is an integer from 10 to 100 000, with the proviso that e' can only be 2 when $R^{3'}$ is a hydrogen atom.

13. Crosslinkable compositions according to claim 11 or 12, characterized in that organosilicon compounds (B) comprise units of the formula



where

A' may in each occurrence be the same or different and represent a radical of the formula



where

CD' represents a monovalent, derivatized or underivatized cyclodextrin radical and $R^{2'}$ represents a divalent, substituted or unsubstituted hydrocarbyl radical which may be interrupted by oxygen or by mercapto, amine, carbonyl, carboxyl, sulfoxide or sulfonyl groups,

R' may in each occurrence be the same or different and represents a substituted or unsubstituted hydrocarbyl radical which may be interrupted by oxygen atoms and/or nitrogen atoms,

X' may in each occurrence be the same or different

and is a radical of the formula $-OR^{1'}$ where $R^{1'}$ is a hydrogen atom or substituted or unsubstituted hydrocarbyl with or without substitution by ether oxygen atoms,

5 a' is 0, 1 or 2,

b' is 0, 1, 2 or 3, and

c' is 0, 1, 2 or 3,

with the proviso that the sum $a'+b'+c'$ is ≤ 4 , the organosilicon compound has at least one A' radical and

10 at least two X' radicals per molecule.

14. Crosslinkable compositions according to one or more of claims 11 to 13, characterized in that they consist of

15 (A) 100 parts by weight of organopolysiloxane of the formula (I'),

(B) 20 to 60 parts by weight of a cyclodextrinyl-containing organosilicon compound comprising units of the formula (II'), and

20 (C) 1 to 10 parts of a crosslinker selected from di- and trialkoxyaminosilane and its partial hydrolyzates.

15. A process for treating organic fibers, characterized in that compositions according to one or
25 more of claims 11 to 14 are applied to, and left to crosslink on, the fibers to be treated.